# GM-158-USB®

## < USB >

## GPS MOBILE LOCATOR

## USER'S MANUAL

# Contents

# Introduction

**Welcome to GM-158-USB GPS Mobile Locator user's manual.**

*Congratulation on your purchase of the GM-158-USB® Mobile* **Locator GPS receiver/antenna. This is the latest in Plug-Navigate-Position innovation from SANJOSE Navigation, manufacturer** *of OEM GPS receiver & antenna around the world.*

*This new concept of Mobile navigation solution is using the devise to integrate with your* **Personal Computer and map software to display your real time location on the monitor.**

*The GM-158-USB is an all-weather rugged design product for all applications.*
*Before you get started with your GM-158-USB®, make sure to read the PC hardware requirements to run the Mapping software.*

# Applications

◇ Navigation and positioning
◇ Finding streets and routes via GPS map software
◇ Travel/track planning
◇ Application for Marine Navigation
◇ Fleet management GPS system
◇ In-car navigating/locating for public safety and emergency
    AVL GPS function

# Package Contents

*After opening your package, make sure that the following items are not missing or damaged.*

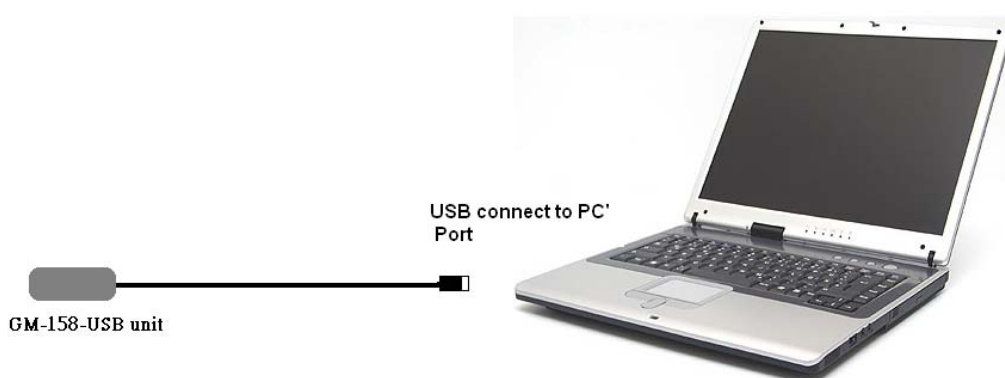*・GM-158-USB® Mobile Locator*

*・User's Manual and Driver's CD*

*If above items are missing or damaged, contact SAN JOSE Navigation immediately at Tel: 886-2-26879500     Fax: 886-2-26878893*

# Getting Started

*This section will introduce you to simply outfit your new GM-158-USB® GPS Mobile locator to your PC.*

*GM-158-USB® is a compact GPS receiver/antenna design for general purpose navigation and position locating when integrated with a computing device for mapping display (Notebook PC, PDA or Palmtop).*

**Hardware standard layout is shown below:**



USB connect to PC'
Port

GM-158-USB unit

**Hardware Requirement:***Computer 486 or Faster CPU, VGA Display card, Sound board (optional), at least 16MB DRAM, CD-ROM drive, Windows OS, at least a COM PORT available.*
*Power supply: DC 5V from PC's USB port.*

**Installation:***The magnetic part should face downward and attach on either the metallic or non–metallic surface. It is the best if the GM-158-USB unit is placed in an open space and allows it to see the clear sky at least for the first fix.*

*In the case of traveling with a vehicle, the GM-158-USB can also be placed on the dashboard.*

# Operating Procedure

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| ## *Caution* |
| **DO NOT TRY TO DO STEPS, WHILE VEHICLE IS IN MOTION.** |
| **AND KEEP YOUR EYES ON THE ROAD** |

***Step 1:*** Before installing the USB driver to your computer, please don't plug your GPS USB product to your computer.

***Step 2:*** Place the CD attached in the package into your CD-ROM drive.

***Step 3:*** Browse it and choose USB Driver/Windows 95-98-2000-XP folder.

***Step 4:*** Click the setup file and press " Next"

***Step 5:*** Choose the Remove option to remove the previous version of the driver if there's any. If there's not, please follow the instructions from step 8.

***Step 6:*** When the removal is done, the system asks you to reboot your computer, please choose " Yes" before you install the newer version of the USB driver.

***Step 7:*** After restart your computer, browse the CD, choose the Windows folder and click the setup file again.

***Step 8:*** Press" Next", and it will thoroughly and automatically install the USB driver to you computer.

***Step 9:*** When it's done, Plug your GPS USB series product into your computer.

***Step 10:*** The screen shows" detect a USB-serial controller device".

***Step 11:*** The system will find its corresponding driver automatically.

***Step 12:*** When it's done, right click " My computer icon" then click "system properties" and find "device manager".

***Step 13:*** Find "Ports (Com & Lpt)", browse it and find "Prolific USB-to-serial Com Port COM X)" X might be a number depending on your computer's Com Port's situation.

***Step 14:*** Indicate Com port number when you try to use your USB-GPS product as a GPS device.

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| ## *Notice* |
| *1. For more detailed installation instruction, please refer to USB driver installation* |
| *instruction* |

# Specifications

| PHYSICAL CONSTRUCTION | | | | PERFORMANCE | | |
|---|---|---|---|---|---|---|
| Dimension | L46.2mm*W38mm*H16.1mm | | | Built-in Antenna | Highly-reliable ceramic patch | |
| Weight without cable | 70 gram | | | Sensitivity | -158dbm | |
| | | | | SBAS | 1 channel (WAAS, EGNOS, MSAS) | |
| Receiving frequency | 1575.42MHZ; C/A code | | | Receiver architecture | 32 parallel channels | |
| Enclosure | Highly impact; corrosion-proof | | | Start-up time | 1 sec. typical (hot start) 35 sec. typical (warm start) 41sec. typical (cold start) | |
| Mounting | Magnetic mount | | | Position accuracy | Without aid | 3.3 m CEP |
| | | | | | DGPS (RTCM) | 2.6 m |
| Construction | Ultrasonic welded, fully waterproof | | | Velocity accuracy | 0.1 Knot RMS steady state | |
| ENVIRONMENTAL CONDITIONS | | | | Update Rate | 1 Hz | |
| Temperature | Operating: -0 ~ +70 ℃ | | | Power Supply | USB @ 5V | |
| | Storage: -20 ~ +85 ℃ | | | | | |
| COMMUNICATION | | | | Power Consumption | Acquisition: 50mA | |
| | | | | | Tracking: 50mA | |
| Protocol | NMEA V3.01 | | | Baud Rate | 4800 bps | |
| Signal level | USB 1.1 | | | | | |
| INTERFACE CAPABILITY | | | | POWER CABLE | | |
| Standard Output Sentences | GGA, RMC, GSV*5,VTG, GSA*5 | | | Length | 5m | |

# APPENDIX

## Troubleshooting Tips

**1. No updated display in your PC while moving.**
- *Check cable connections and COM port setting AT Control Panel/System Properties/Device Manager/Com-Port.*
- *Check raw data by using Window Terminal 4800bps*

**2. No ASCII NMEA data when running terminal program in COM-n,4800 8N1**
- *Check Control Panel/System Properties/Device Manager/Com-Port.*

**3.Navigational software does not auto detect the GPS receiver**
- *Check Installation & If the USB connecter connects to PC*

**4. If your PC recognizes GM-158-USB as a mouse**
- *Please remove the GM-158-USB from the USB Port of your PC or device and plug it back. If it still happens, please reinstall the USB drive.*

**5.No GPS data after program initialize.**
- *Check USB connection.*
- *Check for GPS obstruction toward the sky.*

**6. GPS data are visible but no activity on the MAP SOFTWARE.**
- **Check to see if the Map software desire NMEA sentences (GGA, RMC, GSV,VTG, GSA) are present in viewing using Terminal Windows set at 4800bps.**

# Limited Warranty

GM-158-USB® is a GPS receiver as part of navigational aids, and is not intended to replace other means of navigation or aids.

SANJOSE NAVIGATION, INC. warrants this GPS receiver and accessories to be free of defect for a period of 12 months from the date of original purchase.

THIS WARRANTY APPLIES ONLY TO ORIGINAL PURCHASE.

In any event of a product defect while in normal usage, SAN JOSE NAVIGATION will replace or repair the product with no charge to the original purchaser for parts and labor. However, SAN JOSE NAVIGATION reserves the right of determination to replace or repair the defective product. The replacement or repaired product will be warranted for total of (ninety) 90 days from the date of return shipment, or for the balance of the original warranty, whichever is longer.

PURCHASER'S DUTIES

The purchaser must return the GPS receiver postpaid, with proof of the date of original purchase with the return address to:

**SAN JOSE NAVIGATION, INC.**

9F, No.105, Shi-Cheng Road, Pan-Chiao City

Taipei Hsien, Taiwan, R.O.C. (220)

TEL: 886-2-26879500

FAX: 886-2-26878893